UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/759,504 | 01/16/2004 | Kalpesh Mehta | 10559/164002/P8248C/Intel | 7668 |

20985          7590          11/20/2009
FISH & RICHARDSON, PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

| EXAMINER |
|---|
| HSU, JONI |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2628 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 11/20/2009 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):
PATDOCTC@fr.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

*Ex parte* KALPESH MEHTA, MIKE DONLON, ERIC SAMSON, and
WEN-SHAN (VINCENT) WANG

Appeal 2008-004853
Application 10/759,504
Technology Center 2600

Decided: November 18, 2009

Before JOSEPH F. RUGGIERO, MARC S. HOFF, and KARL D.
EASTHOM, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Final Rejection of
claims 1-57. Claims 60-62 have been allowed, and claims 58 and 59 have

been indicated to be allowable if rewritten in independent form (Ans. 12).
We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Rather than reiterate the arguments of Appellants and the Examiner,
reference is made to the Brief (filed July 9, 2007), the Answer (mailed
October 24, 2007), and the Reply Brief (filed December 4, 2007) for the
respective details. Only those arguments actually made by Appellants have
been considered in this decision. Arguments which Appellants could have
made but chose not to make in the Briefs have not been considered and are
deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

*Appellants' Invention*

Appellants' invention relates to the determination of display buffer
management information for a data processing system including a latency
parameter which represents the delay time between a display data request
and the delivery of display data to a display buffer. Buffer management
parameters further include a buffer drain rate which is based on a display
mode of the data processing system. (*See generally* Spec. ¶ ¶ [0015]-
[0016]).

Claim 1 is illustrative of the invention and reads as follows:

1.      A method of determining buffer management information
for a data processing system, comprising:

determining a latency parameter based on a first system configuration
of the data processing system, the latency parameter representing a latency

time amount between a display data request and delivery of display data to a display buffer;

determining a buffer drain rate based on a first display mode of the data processing system;

calculating one or more buffer management parameters based on at least the latency parameter and the buffer drain rate; and

making the one or more buffer management parameters available for management of the display buffer.

## The Examiner's Rejection

The Examiner relies on the following prior art to show unpatentability:

| | | |
|---|---|---|
| Wang | US 5,953,020 | Sep. 14, 1999 |
| Frank | US 6,499,072 B1 | Dec. 24, 2002 |
| | | (filed Sep. 2, 1999) |
| Shimomura | US 6,600,492 B1 | Jul. 29, 2003 |
| | | (filed Apr. 15, 1999) |
| Ashburn | US 6,628,292 B1 | Sep. 30, 2003 |
| | | (filed Jul. 31, 1999) |

Claims 29-42 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claims 1-6, 10-20, 24-34, 38-48, and 52-57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Frank.

Claims 7, 9, 21, 23, 35, 37, 49, and 51 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Frank and further in view of Shimomura.

Claims 8, 22, 36, and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Frank and further in view of Shimomura and Ashburn.

## ISSUES

The pivotal issues before us are whether Appellants have demonstrated that the Examiner erred in determining that

a)    claims 29-42, which recite an "article comprising a storage medium...," are directed to non-statutory subject matter,

b)    Frank discloses the determination of a latency parameter which represents a time delay between a display request and the delivery of display data to a display buffer, and

c)    if so, the obviousness to the ordinarily skilled artisan of combining the display buffer management teachings, including the determination of buffer drain rate, of Wang with Frank.

## FINDINGS OF FACT

The record supports the following relevant findings of fact (FF) by a preponderance of the evidence:

1.    Wang discloses (Fig. 1, col. 3, ll. 47-53, col. 5, ll. 58-61, and col. 9, ll. 24-31) a display buffer management system in which a buffer drain rate parameter is determined based on the display modes of the display system.

2.      Wang recognizes (col. 2, ll. 36-39 and 54-60) the problems associated with the time delay, i.e., the latency, between a display request and the delivery of the requested data to a display buffer.

3.      Frank discloses (Figs. 1 and 2, col. 2, l. 40-col. 3, l. 17) a display buffer management system including a sequencer which receives issue delay data 24 from a data issue regulator 16 operating in response to feedback data 18 from FIFO buffer 12.

4.      Frank further discloses (Fig. 3, col. 3, l. 63-col. 4, l. 40) that sequencer 20 adjustably delays the data read commands to the frame buffer 22 to avoid collisions with the data 50 sent over unregulated bus 14 to the multiplexer 48.

5.      Frank also discloses (col. 4, ll. 11-62) that sequencer 20 operates in response to a received display data request 42 which includes a display memory read command 202.


PRINCIPLES OF LAW


*Statutory Subject Matter*

Fundamental principles, such as "laws of nature, natural phenomena, and abstract ideas," are not patent eligible. *In re Bilski*, 545 F.3d 943, 952 (Fed. Cir. 2008) ("Specifically, the Court has held that a claim is not a patent-eligible 'process' if it claims 'laws of nature, natural phenomena, [or] abstract ideas. Such fundamental principles are 'part of the storehouse of knowledge of all men . . . free to all men and reserved exclusively to none.'" (Citations omitted.)), *cert. granted*, 129 S.Ct. 2735 (U.S. June 01, 2009)

(No. 08-964). The Examiner need not give patentable weight to descriptive material absent a new and unobvious functional relationship between the descriptive material and the substrate. *See In re Lowry*, 32 F.3d 1579, 1583-84 (Fed. Cir. 1994); *In re* Ngai, 367 F.3d 1336, 1338 (Fed. Cir. 2004); and our decision in *Ex parte* Curry, 2005-0509 (BPAI 2005) (aff'd, Rule 36, Fed. Cir., slip op. 06-1003, June 2006).

<p style="text-align:center;">*Obviousness*</p>

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). "[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore,

> "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" . . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

*KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

## ANALYSIS

I.  THE 35 U.S.C. § 101 REJECTION OF CLAIMS 29-42.

Appellants' arguments are persuasive in convincing us of error in the Examiner's stated position and, accordingly, this rejection is not sustained. The Examiner has rejected claims 29-42 as being non-statutory as being directed to a computer-related invention that includes descriptive material claimed as descriptive material *per se*. According to the Examiner (Ans. 3, 4, 12, and 13), the claimed descriptive material does not have the requisite structural and functional relationship to the claimed computer since the preamble of claims 29-42 is directed to an "article." In the Examiner's view (*id.*), claims 29-42 are reciting some undefined "article" itself, and not a storage medium which stores computer-executable instructions.

We agree with Appellants (App. Br. 10-11; Reply Br. 1-3), however, that, contrary to the Examiner's contention, claims 29-42 necessarily include a storage medium since the language of independent claim 29 recites an "article comprising a storage medium…." Further, the language of independent claim 29, which recites that the storage medium stores computer-executable instructions which are readable and cause a computer to perform the listed operations, establishes the requisite structural and functional interrelationships between the computer and the stored instructions which permit the computer's functionality to be realized. *See In re Lowry*, 32 F.3d 1579, 1583-84 (Fed. Cir. 1994).

II.   THE 35 U.S.C. § 103(a) REJECTION OF CLAIMS 1-6, 10-20,
      24-34, 38-48, AND 52-57 BASED ON THE COMBINATION
      OF WANG AND FRANK.

*Claims 1-6, 10-20, 24-34, 38-48, and 52-56*

With respect to the Examiner's obviousness rejection of independent

claims 1, 15, 29, and 43 based on the combination of Wang and Frank,

Appellants' arguments in response assert a failure by the Examiner to

establish a prima facie case of obviousness since all of the claimed

limitations are not taught or suggested by the applied prior art. Appellants'

arguments focus on the contention that the issue delay data 24 generated by

the data issue rate regulator 16 of Frank does not correspond to the claimed

latency parameter. According to Appellants (App. Br. 12-16; Reply Br. 3-

5), the issue delay data 24 in Frank is an artificial delay imposed *before* the

issuance of a data read command and, therefore, the time between the

issuance of Frank's read command and the delivery of display is

independent of the delay in the issuance of the read command. As such,

Appellants conclude (*id.*) that Frank's issue delay data 24 does not

correspond to the claimed latency parameter because it does not represent a

time amount *between* a display data request and display data delivery as

claimed.

We do not find Appellants' arguments to be persuasive in convincing

us of any error in the Examiner's ultimate determination (Ans. 4-6 and 13-

14) of the correspondence between Frank's generated issue delay data 24

and the claimed latency parameter. To whatever extent Appellants may be

correct that, in Frank, the time between issuance of a read command and the

delivery of data is independent of the delay time before the issuance of the read command, such argument is not commensurate with the claim language. The language of each of the independent claims 1, 15, 29, and 43 recites that the latency parameter is the latency time amount between a display data *request* and display data delivery, not between a read *command* and display data delivery.

As correctly interpreted by Appellants, Frank's disclosed sequencer 20 (FF 3 and 4), which receives the issue delay data 24 from the data issue rate regulator 16, adjustably delays the data read commands to the frame buffer 22 to avoid collisions with data 50 sent over unregulated bus 14 to multiplexer 48. It is important to note, however, that sequencer 20 operates in response to a received display data request 42 which, as disclosed by Frank (FF 5), includes a display memory command 202. It is apparent to us that the net result of Frank's delaying of display memory read commands, which are included in the display request, is a delay in the delivery of display data from frame buffer 22 from the time the display data request is received at request arbiter 34 from the request FIFOs 30a-30n. We fail to see why this delay would not represent a latency parameter between a display data request and display data delivery as claimed.

Lastly, we find, contrary to Appellants' arguments (App. Br. 24; Reply Br. 5), that the Examiner (Ans. 6) has set forth an articulated line of reasoning which establishes that the latency parameter determination features of Frank would have served as an obvious enhancement to the display buffer management system of Wang. The Examiner's conclusion is supported by the fact that, as recognized by Appellants (*id.*), Wang (FF 2) is

aware of the problems caused by a latency between a display request and the delivery of display data. According to the previously discussed *KSR* standards, when a combination of familiar elements according to methods known to the skilled artisan achieves a predictable result, it is likely to be obvious.

For the above reasons, since it is our opinion that the Examiner has established a prima facie case of obviousness which has not been overcome by any convincing arguments from Appellants, the Examiner's 35 U.S.C. § 103(a) rejection of independent claims 1, 15, 29, and 43 as well as dependent claims 2-6, 10-14, 16-20, 24-28, 30-34, 38-42, 44-48, and 52-56 not separately argued by Appellants, is sustained.

*Claim 57*

The Examiner's obviousness rejection of independent claim 57 is sustained as well. Appellants' arguments (App. Br. 16-17) do not persuade us of any error in the Examiner's finding (Ans. 9, 10, and 15) that Frank's utilization (Figs. 1-2, col. 3, ll. 22-29, col. 4, l. 63-col. 5, l.17) of a programmable threshold 28 in conjunction with the entry feedback data 18 from buffer 12 will provide a maximum amount of time that access to local memory 22 to obtain data to supply a display FIFO buffer 52a, 52b may be delayed as claimed.

III.    THE 35 U.S.C. § 103(a) REJECTION OF DEPENDENT
CLAIMS 7-9, 21-23, 35-37, AND 49-51.

We also sustain the Examiner's obviousness rejection of dependent
claims 7-9, 21-23, 35-37, and 49-51 in which the Shimomura and Ashburn
references have been added to the combination of Wang and Frank to
address the burst length range parameter features of these claims.
Appellants have made no separate arguments as to the patentability of these
claims but, instead, have relied on arguments made against independent
claims 1, 15, 29, and 43 which we found to be unpersuasive as previously
discussed.

## CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude that Appellants have shown that the Examiner erred in rejecting claims 29-42 as being directed to non-statutory subject matter under 35 U.S.C. § 101, but have not shown that the Examiner erred in rejecting claims 1-57 for obviousness under 35 U.S.C. § 103.

## DECISION

The Examiner's rejection of claims 1-57, all of the appealed claims, is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

## AFFIRMED

tkl

FISH & RICHARDSON, PC
P.O. BOX 1022
MINNEAPOLIS MN 55440-1022